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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,594	09/08/2000	Shinya Matsumoto	CS-20-000908	2609

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EXAMINER	
CHUNG, DANIEL J	
ART UNIT	**PAPER NUMBER**
2672	9

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/658,594	MATSUMOTO ET AL.	
	Examiner	Art Unit	
	Daniel J Chung	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2003 and 20 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5-7,11-13 and 17-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5-7,11-13 and 17-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claims 1,5-7,11-13 and 17-47 are presented for examination. This office action is in response to the amendments filed on 3-20-2003 and 9-15-2003.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,5-7,11-13 and 17-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montag et al (5,920,492) in view of Brett et al (6,525,765).

Regarding claim 1, Montag et al discloses that the claimed feature of a method of rendering an image, comprising the step of: mapping a plurality semitransparent textures ["texture", "transparency value"] onto respective surfaces [i.e. "billboard"] of a plurality of semitransparent or transparent polygons [i.e. "graphic primitives"] which make up an object [i.e. "smoke", "flames"]; (See Abstract, Fig 1, Fig 3, Fig 5, col 4 line 44-col 5 line 21, col 8 line 11-40) moving plurality of semitransparent textures simulatively in an arbitrary direction; (See Fig 3, Fig 5, col 4 line 37-43) and remapping the plurality of semitransparent textures, which have been moved, onto respective surfaces of the plurality of semitransparent or transparent polygons which make up

object, wherein in moving step, at least one of plurality of semitransparent textures is moved in a different direction from another one of plurality of textures. (See Fig 3, Fig 5, col 4 line 37-43)

Montag et al does not specifically disclose that "remapping process". However, such limitation ["remapping"] is shown in the teaching of Brett et al. (See Fig 1-Fig 3, col 7 line 12-col 8 line 12) It would have been obvious to one skilled in the art to incorporate the teaching of Brett et al into the teaching of Montag, in order to "maintain the appearance of reality" and "represent a change in the distance of the object from the viewer or a change in the orientation of the object relative to the viewer" (See col 7 line 66-col 8 line 7 in Brett), as such improvement is also advantageously desirable in the teaching of Montag for providing optimized fire simulation system with a greater degree of realism. Furthermore, such "remapping process" is well known in the art, in order to "render perspective views of the 3D object in real-time" (See col 1 line 18-25 in Case et al), as explicitly mentioned in the 'background of the invention' of Case et al (6,097,402). (See previously submitted 'Notice of references cited')

Regarding claim 5, Montag et al discloses that arranging plurality of semitransparent or transparent polygons in one or more multiple layers. (See Fig 3, Fig 5, col 4 line 37-43)

Regarding claim 6, refer to the discussion for the claim 1 hereinabove, Montag et al discloses that the claimed feature of a method of processing an image, comprising the steps of: storing [10] a plurality of texture images in a texture rendering area of an image memory; storing a plurality of polygons in a display rendering area of image memory based on at least texture image, and mapping the texture images respectively onto polygon; (See Fig 1, col 1 line 66-col 2 line 11) moving the texture image stored in texture rendering area in an arbitrary direction and restoring the moved texture image in texture rendering area; (See Fig 3, Fig 5, col 4 line 37-43) and remapping the moved texture images respectively onto the polygon stored in display rendering area, wherein in moving step, at least one of plurality of semitransparent textures is moved in a different directions from another one of plurality of textures. (See Fig 3, Fig 5, col 4 line 37-43)

Regarding claims 7,11-13 and 17-20, claims 7,11-13 and 17-20 are similar in scope to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 7,11-13 and 17-20.

Regarding claim 21, Montag et al discloses that at least one of plurality of semitransparent textures is moved in more than one direction. (See Fig 3, Fig 5, col 4 line 37-43)

Regarding claims 22-28, claims 22-28 are similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claims 22-28.

Regarding claims 29-47, claims 29-47 are similar in scope (broader than claims hereinabove) to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 29-47.

Claims 1,5-7,11-13 and 17-47 are once again rejected under 35 U.S.C. 103(a) as being unpatentable over Ebersole et al (6,500,008) in view of Brett et al (6,448,971).

Regarding claim 1, Ebersole et al discloses that the claimed feature of a method of rendering an image, comprising the step of: mapping a plurality semitransparent textures ["texture maps"] onto respective surfaces [i.e. particles] of a plurality of semitransparent or transparent polygons which make up an object ["flame","water"]; moving plurality of semitransparent textures simulatively in an arbitrary direction; and remapping the plurality of semitransparent textures, which have been moved, onto respective surfaces of the plurality of semitransparent or transparent polygons which make up object, wherein in moving step, at least one of plurality of semitransparent textures is moved in a different direction from another one of plurality of textures. (See

Fig 2, Fig 4, col 7 line 16-24, col 7 line 39-61, col 9 line 16-23, col 17 line 41-col 18 line 3)

Ebersole et al does not specifically disclose that "remapping process". However, such limitation ["remapping"] is shown in the teaching of Brett et al. (See Fig 1-Fig 3, col 7 line 12-col 8 line 12) It would have been obvious to one skilled in the art to incorporate the teaching of Brett et al into the teaching of Ebersole et al, in order to "maintain the appearance of reality" and "represent a change in the distance of the object from the viewer or a change in the orientation of the object relative to the viewer" (See col 7 line 66-col 8 line 7 in Brett), as such improvement is also advantageously desirable in the teaching of Ebersole et al for rendering optimized fire simulation system with a greater degree of realism. Furthermore, such "remapping process" is well known in the art, in order to "render perspective views of the 3D object in real-time" (See col 1 line 18-25 in Case et al), as explicitly mentioned in the 'background of the invention' of Case et al (6,097,402). (See previously submitted 'Notice of references cited')

Regarding claim 5, Ebersole et al discloses that arranging plurality of semitransparent or transparent polygons in one or more multiple layers. (See Fig 2-4)

Regarding claim 6, refer to the discussion for the claim 1 hereinabove, Ebersole et al discloses that the claimed feature of a method of processing an image, comprising

the steps of: storing a plurality of texture images in a texture rendering area of an image memory; storing a plurality of polygons in a display rendering area of image memory based on at least texture image, and mapping the texture images respectively onto polygon; moving the texture image stored in texture rendering area in an arbitrary direction and restoring the moved texture image in texture rendering area; and remapping the moved texture images respectively onto the polygon stored in display rendering area, wherein in moving step, at least one of plurality of semitransparent textures is moved in a different directions from another one of plurality of textures. (See Fig 2, Fig 4, col 7 line 16-24, col 7 line 39-61, col 9 line 16-23, col 17 line 41-col 18 line 3)

Regarding claims 7,11-13 and 17-20, claims 7,11-13 and 17-20 are similar in scope to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 7,11-13 and 17-20.

Regarding claim 21, Ebersole et al discloses that at least one of plurality of semitransparent textures is moved in more than one direction. (See Fig 4, col 18 line 2-3)

Regarding claims 22-28, claims 22-28 are similar in scope to the claim 21, and thus the rejection to claim 21 hereinabove is also applicable to claims 22-28.

Regarding claims 29-47, claims 29-47 are similar in scope (broader than claims hereinabove) to the combination of claims 1 and 5-6, and thus the rejections to claims 1 and 5-6 hereinabove are also applicable to claims 29-47.

Response to Arguments/Amendments

Applicant's arguments with respect to claims 1,5-7,11-13 and 17-47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment (i.e. "remapping") necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action. Any inquiry concerning this

communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am- 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael, Razavi, can be reached at (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

djc
October 6, 2003

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600